

CURRENT STATUS OF THE CLAIMS

In the Claims

The following is a marked-up version of the claims with the language that is underlined (“ ”) being added and the language that contains strikethrough (“ ”) being deleted:

1. (Amended) A chip-level electronic package, comprising:
at least one waveguide having a waveguide core, an air-gap cladding around a portion of the waveguide core, and an overcoat layer engaging a portion of the air-gap cladding.
2. (Canceled)
3. (Amended) The chip-level electronic package of claim 2 1, further comprising:
a lead; and
at least one air-gap layer disposed substantially under a portion of the lead and wherein the at least one waveguide is adjacent the air-gap layer.
- 4-5. (Canceled)
6. (Amended) The chip-level electronic package of claim 2 1, further comprising:
a coupling element adjacent to the waveguide core and engaging the air-gap cladding.
7. The chip-level electronic package of claim 1, wherein the waveguide core includes at least one coupling element.
8. The chip-level electronic package of claim 7, wherein the at least one coupling element is a volume grating coupling element.

9. (Amended) The chip-level electronic package of claim 7, ~~further comprising:~~
wherein the ~~an~~ air-gap cladding is disposed around a portion of one of the
~~waveguide cores~~ at least one coupling element.
- 10-14. (Canceled)
15. The chip-level electronic package of claim 1, wherein the waveguide core is adjacent to a lower waveguide cladding.
- 16-28 (Canceled)
29. (Amended) A method of operating a chip-level electronic package comprising:
coupling an optical signal to a waveguide in the wafer-level electronic package; and
communicating the optical signal through the waveguide, the waveguide having a
waveguide core, an air-gap cladding around a portion of the waveguide core, and an
overcoat layer engaging a portion of the air-gap cladding.
30. (Canceled)
31. (Newly Added) The chip-level electronic package of claim 1, wherein the overcoat layer is selected from silicon dioxide, silicon nitride, polyimides, polynorbornenes, epoxides, polyarylenes ethers, and parylenes.
32. (Newly Added) The chip-level electronic package of claim 1, wherein the overcoat layer is selected from polyimides, polynorbornenes, epoxides, polyarylenes ethers, and parylenes.
33. (Newly Added) The chip-level electronic package of claim 1, wherein the overcoat layer is selected from polyimides and polynorbornenes.

34. (Newly Added) A chip-level electronic package, comprising:
 - at least one waveguide having a waveguide core, a sacrificial layer around a portion of the waveguide cores, and an overcoat layer engaging a portion of the sacrificial layer.
35. (Newly Added) The chip-level electronic package of claim 34, wherein the overcoat layer is selected from silicon dioxide, silicon nitride, polyimides, polynorbornenes, epoxides, polyarylenes ethers, and parylenes.
36. (Newly Added) The chip-level electronic package of claim 34, wherein the sacrificial layer is selected from polyimides, polynorbornenes, epoxides, polyarylenes ethers, and parylenes.
37. (Newly Added) The chip-level electronic package of claim 34, wherein the sacrificial layer is selected from polypropylene carbonate, polyethylene carbonate, polynorborene carbonate.
38. (Newly Added) The chip-level electronic package of claim 34, further comprising:
 - a coupling element adjacent to the waveguide core and engaging the sacrificial layer.
39. (Newly Added) The chip-level electronic package of claim 34, wherein the waveguide core includes at least one coupling element.
40. (Newly Added) The chip-level electronic package of claim 39, wherein the at least one coupling element is a volume grating coupling element.
41. (Newly Added) The chip-level electronic package of claim 34, wherein the sacrificial layer is disposed around a portion of one of the at least one coupling element.